

# Superlens and a method for making the same

## Abstract

29EVS-PHO-US-P-001-First Draft-Mar 10 2003A superlens for controlling the size and the phase of an electromagnetic beam that passes through it, and a method for independently controlling the horizontal and vertical focusing of the electromagnetic beam using the superlens is provided. The superlens comprises a vertically GRIN multi-layer structure with one or more horizontally curved sidewalls. The vertical focusing is controlled by varying the longitudinal thickness of the multi-layer structure. The horizontal focusing is controlled by varying the profile and the radius of curvature of the horizontally curved sidewalls. Varying the thickness and radius of curvature is done by etching. Also provided is a method for making the superlens.